



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Christoph Keller et al.
APPLICATION NO.: 10/081,544
FILING DATE: February 19, 2002
TITLE: COMPARTMENT FOR POWDER COATING OF WORKPIECES
EXAMINER: Unassigned
GROUP ART UNIT: 1734
ATTY. DKT. NO.: 20649-06610

Handwritten initials and signatures: 24, [signature], [signature] 02

| CERTIFICATE OF MAILING | |
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| Dated: <u>5/1/02</u> | By: <u>Albert C. Smith</u> Albert C. Smith, Reg. No.: 20,355 |

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INFORMATION DISCLOSURE STATEMENT
Under 37 CFR §§ 1.56 and 1.97-98

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SIR:

Pursuant to the provisions of 37 CFR §§ 1.56 and 1.97-98, enclosed herewith is modified form PTO-1449 listing references for consideration by the Examiner. Enclosed is a copy of each listed reference that may be material to the examination of this application, and for which there may be a duty to disclose. Concise explanations of the relevance of each of the cited references that are not in the English language are believed to be accurately set forth in the attached English abstracts, or as set forth as follows:

Ref. D: Figures 1-3 and the specification disclose a system for producing a powder gas stream that includes two sensors attached to a feed line containing the powder gas stream, wherein the sensors detect tribo tensions generated by the powder stream flowing through the line.

Ref. E: The single figure and the specification disclose a measurement system for determining amounts of powder flowing in an air powder mixture by using tribo electricity which is generated when transporting the powder mixture through a feed line. The measurement results are used for controlling automatic coating systems.

Ref. F: Figures 1-3, 9 and the specification disclose a powder coating system in which a plurality of coating units are arranged substantially vertically one above the other for simultaneous powder discharge.

Ref. G: Figures 1, 4, 5 and the specification disclose an apparatus and a method for measuring a powder mass stream in a powder gas mixture during the transport of the powder gas mixture through a feed line. The speed of the powder gas mixture in the feed line and the powder mass per volume unit are measured and the powder mass stream is calculated from the measured speed and the measured powder mass per volume unit. For measuring the powder mass a microwave resonator is used and, for measuring the powder speed, electrodes surrounding the feed line for measuring tribo tensions are used.

Ref. I: Figures 1-6 and the specification disclose a method and apparatus for a powder coating system in which powder amounts that are fed to a spray coating device, per time unit, are directly measured and controlled. A radiation measurement means (44) measures the powder amount in a powder gas stream of pneumatically fed powder, and the measurement value is electronically linked with a gas amount value by an electronic processing means (42), the gas amount value corresponding to the gas amount contained in the powder gas stream, for deriving an absolute actual value of the fed powder amount per time unit.

Ref. J: Figures 1-3 and the specification disclose a powder coating system in which a plurality of coating units are arranged substantially vertically one above the other for simultaneous powder discharge.

Ref. L: Figures 1-6, and the specification disclose a powder coating system in which a plurality of coating units are arranged substantially vertically one above the other for simultaneous powder discharge.

Ref M: Figures 1a, 1b, 3 and 4 and the specification disclose apparatus and method for measuring a powder mass flow in a powder/gas mixture during the conveyance thereof through a feed pipe, the apparatus comprising a velocity measuring means for the powder/gas mixture, a mass measuring means for the powder mass per volume unit, and a calculating means to calculate the powder mass flow based on the velocity measured, the powder mass per volume unit measured, and the dimensions of the feed pipe. The mass measuring means comprises a microwave resonator embodied as a coil applied on the outside of the feed pipe for measuring the powder mass flow in the feed pipe by establishing a reference resonance of a known powder mass flow and adjusting two measuring frequencies at either side of the reference resonance and determining the displacement of the resonant frequency as an indication of powder mass flow.

Ref. N: The right column discloses a coating system in which the charging current is detected for monitoring the operation of coating device and controlling the powder throughput and the powder charge via the air pressure for maintaining a constant powder feed amount and for controlling the powder throughput and the specific powder charge in accordance with the detected workpiece.

The filing of this Information Disclosure Statement shall not be construed as a representation regarding the completeness of the list of references, or that inclusion of a reference in this list is an admission that it is prior art or is pertinent to this application, or that a search has been made, or as an admission that the information listed is, or may be considered to be, material to patentability, or that no other material information exists, and shall not be construed as an admission against interest in any manner.

This Information Disclosure Statement is being filed:

- ☒ within three months of the filing date of the application, or date of entry into the national stage of an international application, or before the mailing date of a first office action on the merits, whichever event last occurred;
- ☐ before the mailing of a first official action after the filing of a request for continued examination (RCE) under 37 CFR § 1.114;
- ☐ after three months of the filing date of this national application or the date of entry of the national stage in an international application, or after the mailing date of the first official action on the merits, whichever event last occurred, but before the mailing date of the first to occur of either: (1) a final action under 37 CFR §1.113; or (2) an action that otherwise closes prosecution in the application, and:
 - ☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR. § 1.97(c); OR
 - ☐ Applicant certifies pursuant to 37 CFR § 1.97(e) that:
 - ☐ each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement; OR
 - ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing this

certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement;

- ☐ before the payment of the issue fee but after the mailing date of the first to occur of either: (1) a final action under 37 CFR § 1.113; or (2) an action that otherwise closes prosecution in the application, and:
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 - ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing this certification after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated under 37 CFR § 1.56(c) more than three months prior to the filing of this Statement; AND
 - ☐ attached hereto is the fee set forth under 37 CFR §1.17(p) for submission of this Information Disclosure Statement under 37 CFR. § 1.97(c); OR
 - ☐ after the payment of the issue fee. Applicant request that the information contained in this Information Disclosure Statement be placed in the file according to 37 CFR § 1.97(i), although the information may not be considered by the USPTO.
- ☐ This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application No. [APPLICATION NUMBER], filed on [FILING DATE], and the references cited therein are hereby referenced, but are not required to be provided in this application under 37 CFR § 1.98(d).
- ☐ Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 CFR

§ 1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement. 37 CFR § 1.704(d).

☒ Applicant submits that no fee is required for the consideration of this Information Disclosure Statement.

Consideration of the listed references and favorable action are solicited.

Respectfully submitted,
CHRISTOPH KELLER

Dated: 5/2/02

By: Albert C. Smith

Albert C. Smith, Reg. No.: 20,355
Fenwick & West LLP
Two Palo Alto Square
Palo Alto, CA 94306
Tel.: (650) 858-7296
Fax.: (650) 494-1417



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| 0001/PTO Rev. 10/95 TRANSMITTAL FORM <i>(to be used for all correspondence during pendency of filed application)</i> | U.S. Department of Commerce Patent and Trademark Office | Application Number | 10/081,544 |
| | | Filing Date | February 20, 2002 |
| | | First Named Inventor | Christoph Keller |
| | | Group Art Unit Number | 1734 |
| | | Examiner Name | Unassigned |
| Total Number of Pages in This Submission 7* | | Attorney Docket Number | 20649-06610 |

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REMARKS: *Does not include page count of 14 references

| SIGNATURE OF ATTORNEY OR AGENT | | |
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| Signature: | <i>Albert C. Smith</i> | |
| Attorney/Reg. No.: | Albert C. Smith, Reg. No. 20,355 | Dated: 5/1/02 |

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